

## **A new species of scallop from off New South Wales, Australia (Bivalvia: Propeamussiidae)**

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### **ABSTRACT**

*Cyclopecten kapalae* is described from the continental slope off New South Wales.

### **INTRODUCTION**

During investigations by the FRV 'Kapala' a new species of Propeamussiidae was collected off New South Wales during the years 1977-1980. This is the third propeamussiid from that region. The other two are *Parvamussium thetidis* (Hedley, 1902) and *Chlamydella favus* (Hedley, 1902).

### **TAXONOMY**

**Superfamily Pectinacea Rafinesque, 1815 (emend., Waller, 1978)**

**Family Propeamussiidae Abbott, 1954**

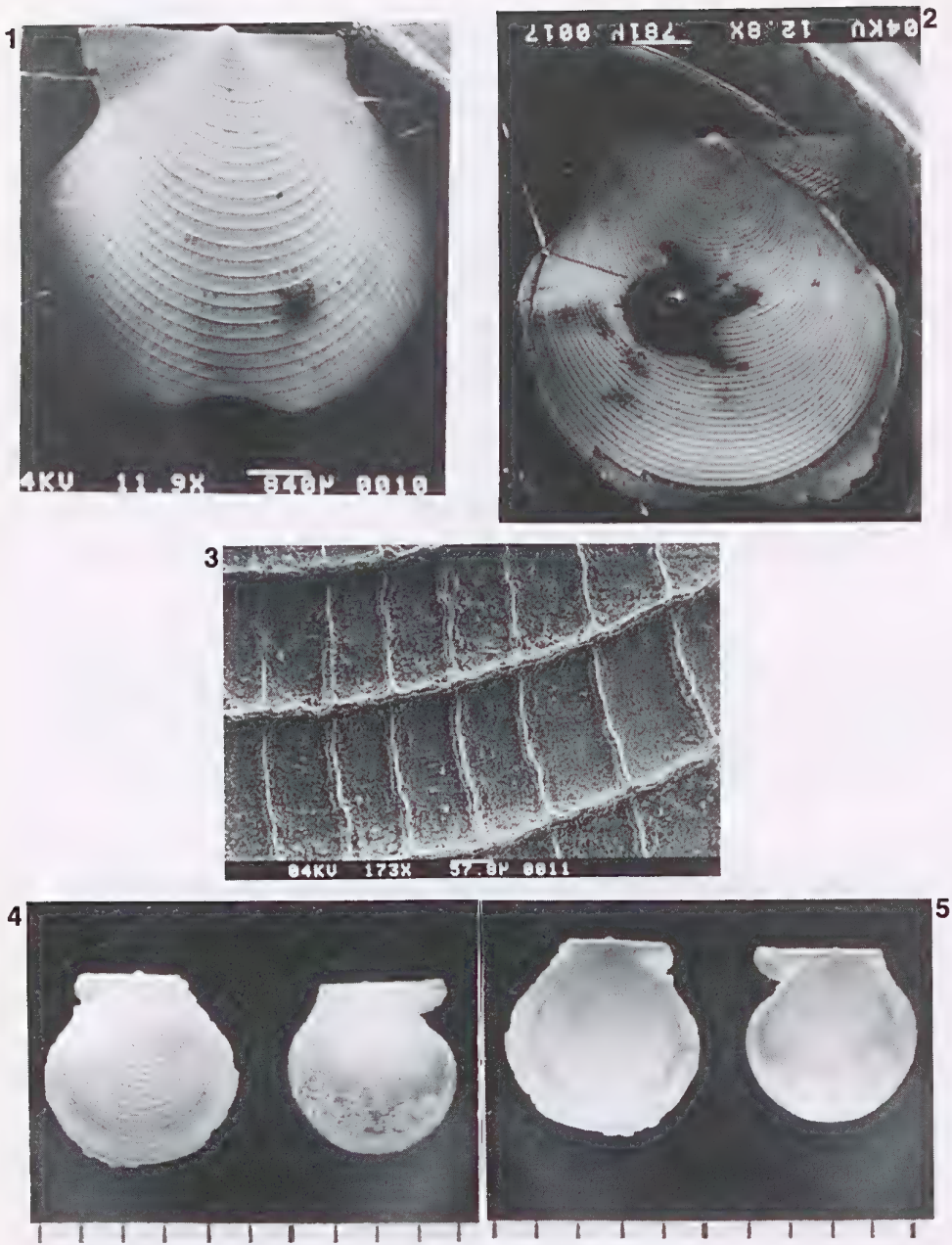
**Genus *Cyclopecten* Verrill, 1897**

Type species: *Pecten pustulosus* Verrill, 1873

***Cyclopecten kapalae* sp. nov.**

### **Description**

Shell small, approximately 6 mm in height, but normally about 5 mm, somewhat higher than wide. Subcircular, inequivalve, left valve somewhat more convex than right one. Anterior and posterior auricles unequal, umbonal angle about 90°. Left valve cancellated on entire external surface, produced by fine irregular radial costae and concentric lamellae. Near umbonal area only concentric lamellae are present, radial ribbing beginning about 1 mm from umbonal top. Radial riblets and concentric lamellae most abundant near ventral margin. Between the cancellation surface is microscopically scratched. Anterior auricle has coarser concentric lamellae than posterior one, and without radial costae. No lirae visible on internal surface. Near ventral margin cancellated structure of external surface translucent, whereas central part of resilium often an opaque milky white. Hinge line straight; cardinal crurae have strong irregular grooves, widening at



1. Holotype (left valve, exterior) (11.9x) — uncoated
2. Holotype (right valve, exterior) (12.8x) — uncoated
3. Holotype (left valve, central part exterior) (173x): concentric lamellae with interstitial radial riblets. (uncoated)
4. Paratypes (left and right valve, exterior): "KAPALA" stn K80-20-08.
5. Paratypes (left and right valve, interior): "KAPALA" stn K80-20-08.

central part and narrowing at edge of hinge line. Resilial insertion triangular, somewhat overhanging. Umbonal top rises the hinge line.

Right valve has concentric lamellae on entire external surface, somewhat larger and coarser at ventral margin. Posterior and anterior auricles also have concentric lamellae, somewhat more irregular on the latter. Microscopic scratches on surface between concentric lamellae. Near byssal fasciole two or three fine axial riblets are exposed, sometimes absent. Byssal fasciole small; byssal notch hardly distinguished from outer margin of anterior auricle. No ctenolium present on suture. Hinge line nearly straight, cardinal crurae similar to that of left valve. No internal lirae. Coloration dirty to milky white, and sometimes translucent.

#### Dimensions

Holotype: Height 5 mm, length 4.5 mm, diameter 1.2 mm. Paratypes: Height 2.5 to 6 mm, length 2.5 to 5.5 mm (valves).

#### Holotype

Off Sydney, NSW, 33°31'-33'S, 152°08'-07'E, 914-907 m, 10 Dec. 1980, FRV 'Kapala' Stn. K80-20-08. AMS C. 155831.1.

#### Paratypes

NSW: (All collected by FRV 'Kapala'). Off Port Kembla, 33°41'S, 151°56'E, 730 m, 5 Dec. 1977. Dredged; Stn. K77-23-04. 2 l.v. & 2 r.v., AMS C. 155837. Off Nowra, 34°50'S, 151°15'E, 841 m, 12 Dec. 1978. Dredged, Stn. K78-27-04. 3 l.v. & 5 r.v., AMS C. 155823. Off Nowra, 34°50'S, 151°13'E, 550 m, 12 Dec. 1978. Benthic sledge, Stn. K78-27-07. 1 l.v., AMS C. 155822. Off Sydney, 34°15'-12'S, 151°29'-31'E, 476 m, 14 Dec. 1978. Trawled, Stn. K78-26-17. 8 l.v. & 11 r.v., AMS C. 155832. E of Sydney, 33°33'S, 152°05'E, 750 m, 4 Dec. 1979. Benthic sledge, Stn. K79-20-03. 3 r.v. AMS C. 155800. E. of Broken Bay, 33°32'S, 152°08'E, 914 m, 4 Dec. 1979. Benthic sledge, Stn. K79-20-05. 1 l.v. & 1 r.v., AMS C. 155813-14. Off Sydney, 33°31'-33'S, 152°08'-07'E, 914 m, 10 Dec. 1980. Dredged, Stn. K80-20-08. 5 l.v. & 5 r.v., AMS C. 155831.2.

#### Distribution

The new species has been collected only from off New South Wales, Australia (33°31'-34°50'S and 151°13'-152°08'E), in coarse sand to fine ooze, with sediments.

#### Remarks

*Cyclopecten secundus* Finlay, 1927 from New Zealand differs from *C. kapalae* by more pronounced cancellated sculpture with tubercles on the left valve, cancellated auricles, and a broader shell-disc. *Cyclopecten bistratus* (Dall, 1916) is somewhat larger, to 7 mm in height and length, and lives in deeper water to 1500 m off California, USA. This species has also been reported from Sagami Bay, Japan (710-1385 m) by Okutani (1962; 18), no morphological differences between the Californian and Japanese species being recognized. Japanese specimens have finer cancellations on the entire surface of the left valve than *C. bistratus* from California and *C. kapalae*. *Cyclopecten bistratus* differs from the Japanese species and *C. kapalae* by more close-set radial riblets on the left valve. The morphological features of the right valve are almost similar in the three species.

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